

Appl. No. 10/646,218
Amdt. dated January 18, 2005
Reply to Office action of November 3, 2004

REMARKS/ARGUMENTS

Reconsideration of the application is requested.

Claims 1-6 are now in the application. Claims 1 and 5 have been amended. Claim 6 has been added.

More specifically, we have introduced a limitation in claim 1 which clarifies the fact that the contact hole is opened down to the surface of the first conductive structure after the spacers have been formed on the side walls of the contact hole. Support for the added term in claim 1 is found, for instance, in the drawing which illustrates the spacers 11' in Fig. 3 with the complete layer 7 still covering the contact structure 6 and Fig. 4, where the layer 7 has been opened and the spacers 11' remain on the side walls of the opening 10.

This brings us to the rejection of claim 1 as being anticipated by Chiang et al. (US 5,739,579, "Chiang") under 35 U.S.C. § 102(b). Claim 1, as clarified, is clearly distinguished over Chiang and claim 1 is patentable over the reference.

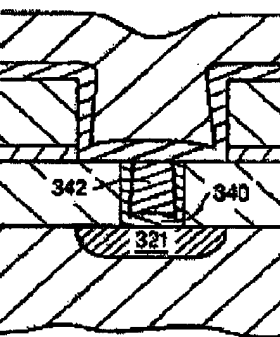
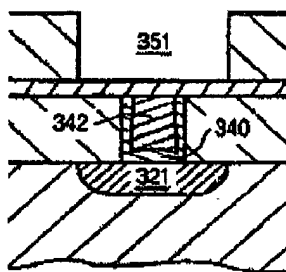
To begin with, Chiang largely corresponds to the reference Mu et al. (US 5,612,254), which was broadly discussed in our previous response. The prior rejection over Mu was overcome by

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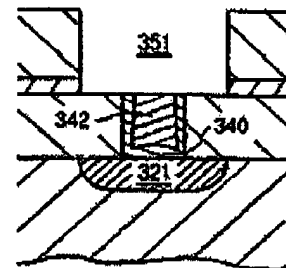
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applicant's prior response. Chiang's first embodiment, illustrated in and described with reference to Figs. 1-13 corresponds with the embodiment illustrated in Mu et al.. The second embodiment disclosed in Chiang has been cited by the Examiner as allegedly reading on the claimed invention. The processing sequence disclosed by Chiang is different from that of the claimed invention and the differences are easily illustrated with reference to Chiang's Figs. 21-23:



The conductive structure 342 is covered in its entirety by the layer 323 (etch stop layer) below the opening 351. In the next step, the opening 351 is taken down to the contact structure 342 by etching the layer 323. Only after the opening has been taken to the conductive structure 342, is the side wall of the opening covered with the layer 360 (barrier layer).



This, of course, is entirely different in the context of the claimed invention. Here, we form the spacers on the side wall

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prior to taking down the contact hole to the conductive structure. When the second diffusion barrier layer 12 is formed, it is formed onto the spacers 11'. That is, the diffusion barrier layer 12 corresponds to the barrier layer 360 of Chiang and Chiang does not have anything that corresponds with the spacers 11' of the instantly claimed invention.

In view of the foregoing, claim 1 is not anticipated by Chiang. Claim 1 is also not obvious over Chiang or any combination of prior art. Reference is had to our previous responses concerning the non-obviousness of the claimed invention.

The added claim 6 corresponds to the proposal made by the Examiner during the interview on November 10, 2004. The Examiner stated that the incorporation of the last sentence of claim 4 into claim 1 would place the application in condition for allowance. Claim 6 represents that combination.

Claim 5 has been amended in accordance with the Examiner's objection.

The entry of the amendment is believed to be in order. No additional issues are being raised. As mentioned, the

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combination of claim 6 was recommended by the Examiner. The change to claim 5 is but a formality. The added limitation in claim 1 was previously in the application but the "subsequent" issue was not emphasized as much as it is after the amendment. Nevertheless, no additional issues are raised that would go beyond the Examiner's previous review of the case.

The application is now in condition for allowance. Should the Examiner have any further questions or comments, counsel would appreciate a telephone call during which the issue may be resolved.

In view of the foregoing, the issuance of a Notice of Allowance is solicited.

Respectfully submitted,



For Applicant

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